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IRON AGE

April 16, 1984

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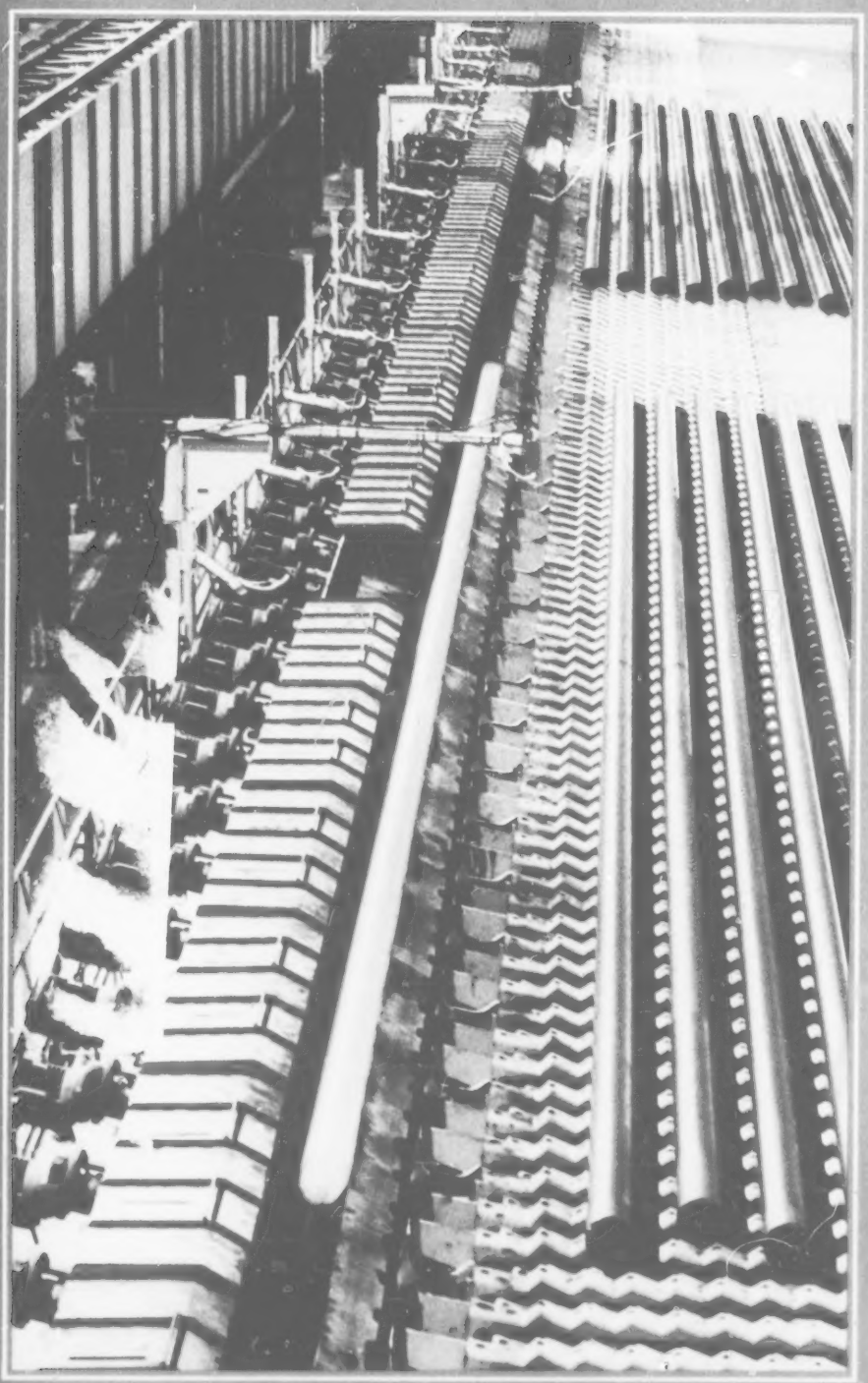


IN PURSUIT OF NEW TECHNOLOGY IN STEEL

U.S. STEEL UNLEASHES ITS NEW SEAMLESS TUBE MILL

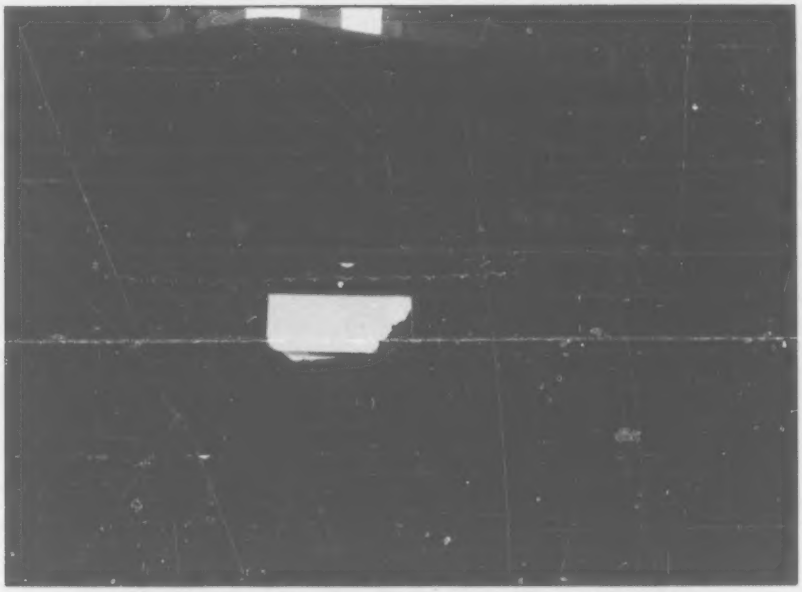
THE WORLD'S TOP 50 STEEL PRODUCERS

PLUS—

THE HOT SPOT

APRIL 16, 1984 VOL. 227, NO. 8

CHILTON'S IRON AGE METALS PRODUCER



Cover: Photo courtesy of U.S. Steel. Above: Georgetown Texas Steel.

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IRON AGE's 1983 TOP 50 WORLD STEEL PRODUCERS

Our annual survey of the World's Top 50 Steel Producers reveals cutbacks in staff and plant are taking place worldwide, and that the U.S. steel producers are staging a serious, successful fight for survival.

BY JAMES B. POND

Analysis of the 1983 *Iron Age* Metals Producer survey of the World's Top 50 Steel Producers reveals some unexpected trends in the industry.

The present survey is an outgrowth of earlier studies conducted by *Iron Age Metalworking International* (IAMI) which for many years reported world steel production and financial data. Last year, the financial performance data was dropped due to widely fluctuating exchange rates, different fiscal years, and the growing number of multi-industry steel producers. Most firms complained that the results were neither fair nor neccessarily accurate.

In place of the financial-related questions, it was felt that the relative efficiency of plants located around the world, as measured by tons of steel produced per employee, would be a fair measure. And impartial.

The survey of 1983 steel production asked that only employees involved with steelmaking operations be reported. This should include administration, sales and production employees. The question and numbers reported are judgmental. They may not be comparable from one company to another. When clarification inquiries were made to us, we asked that all employees normally associated with steelmaking operations be included. This generally was satisfactory and understood.

If there is disagreement in the numbers reported for number of employees during 1982 as reported in our 1982 and 1983 surveys, the 1983 data is to be preferred because some of the previous reports included persons not engaged in steelmaking. This change has been particularly important to some of the larger firms that have operating divisions in such industries as shipbuilding, construction, off-shore structures, and bridge building.

Also clarified for 1983 was the definition of maximum capability or capacity. Some firms simply reported rated design capacity of their equipment and facilities. Does this imply one, two or three operating shifts per day? Some processes are continuous and run for days, weeks or months without letup. We agreed with one company that defined it as "The tonnage capability to produce raw steel for a sustained full order book."

New for the 1983 survey is the question: "How much steel production was exported, as a pct of your total shipments?" The industry's response to this question was rather revealing. Several of the steel producers export more than 90 pct of their production. And, not surprising, perhaps, the major U.S. producers exported essentially none of their output.

A review of the relative performance and change in percentages from 1982 to 1983 reflects orientation of the steel producers in various countries and markets. Many firms increased their export ratios during 1983 and many decreased exports.

Drawing Conclusions

What conclusions can we draw from the 1983 *Iron Age* Metals Producer survey?

In this world economic climate with its recent worldwide recession in both the metal producing and metalworking industries—a real disaster for both industries—it did not seem appropriate to hold a contest for the firm that increased its employment the most. The goal in the eyes of most financial people is to get rid of people to reduce overhead. Nevertheless, seven firms out of the 50 surveyed did increase employment during 1983. In first place was Sacilor, with an increase of 7,147. Armco Inc. of the U.S. was a surprising

PERFORMANCE ANALYSIS

1983 TOP TEN PRODUCERS

Based on Tons Produced Per Employee

	Ranking	Company	Country	1983	1982
1	(12)	Pohang	(S. Korea)	689.3	725.5
2	(16)	Kobe Steel	(Japan)	463.8	476.9
3	(32)	China Steel	(Taiwan)	451.6	374.9
4	(5)	NKK	(Japan)	450.4	465.1
5	(39)	Sidmar	(Belgium)	446.1	410.4
6	(1)	Nippon Steel	(Japan)	418.9	433.7
7	(6)	Kawasaki Steel	(Japan)	363.1	368.3
8	(7)	Sumitomo	(Japan)	359.2	368.0
9	(48)	Rautaruukki	(Finland)	293.5	298.8
10	(42)	Nisshin Steel	(Japan)	288.3	284.0

Firms That Shrank in 1983 By Decreasing Employment

Rank	Company	1982 → 1983	Change
1	British Steel (3)	103,700 → 81,100	22,600
2	U. S. Steel (2)	62,787 → 49,095	13,692
3	Broken Hill (19)	41,858 → 30,836	11,022
4	Bethlehem Steel (8)	43,545 → 35,052	8,493
5	Iscor (21)	50,538 → 43,615	6,923
6	Krupp Stahl (28)	35,840 → 29,075	6,000
7	Finsider (4)	99,700 → 94,100	5,600

Steel Producers That Improved Production in 1983

	Company	1982 → 1983 (metric tons)	Change (metric tons)
1	U. S. Steel (2)	10,988,000 → 13,440,000	2,452,000
2	Siderbrás (9)	7,700,000 → 9,100,000	1,400,000
3	British Steel (3)	11,400,000 → 12,700,000	1,300,000
4	COSIPA (37)	1,854,269 → 3,018,000	1,163,731
5	China Steel (32)	2,316,707 → 3,411,010	1,094,303
6	J & L (13)	5,896,000 → 6,985,000	1,089,000
7	Republic (18)	4,613,000 → 5,700,000	1,087,000
8	Inland (17)	4,691,028 → 5,720,677	1,029,649
9	Armco (20)	4,811,695 → 5,430,933	619,238
10	CSN (38)	2,301,000 → 2,864,000	563,000

Best Productivity Improvement 1983 Versus 1982 (Tons/Employee)

Rank	Company	Tons/Employee 1982 → 1983	Pct
1	COSIPA (37)	129.0 → 214.1	65.7
2	U. S. Steel (2)	175.0 → 273.7	56.4
3	British Steel (3)	109.9 → 156.6	42.5
4	Wheeling-Pittsburgh (46)	205.3 → 268.9	31.0
5	CSN (38)	100.9 → 131.0	29.8
6	J & L (13)	190.2 → 240.9	26.6
7	Bethlehem (8)	219.2 → 276.7	26.2
8	Inland Steel (17)	223.4 → 279.1	24.9
9	Krupp Stahl (28)	111.4 → 134.3	20.6
10	China Steel (32)	374.9 → 451.6	20.4

Firms That Grew in 1983 By Increasing Employment

Rank	Company	1982 → 1983	Change
1	Sacilor (14)	60,353 → 67,500	7,147
2	Armco (20)	18,634 → 21,596	2,962
3	Sidermep (31)	37,331 → 39,098	1,767
4	China Steel (32)	6,180 → 7,554	1,374
5	Tata Iron & Steel (47)	64,038 → 64,757	719
6	Pohang Iron & Steel (12)	12,103 → 12,241	138
7	Nisshin Steel (42)	8,846 → 8,965	119

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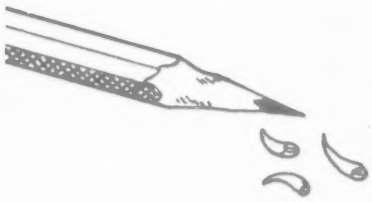

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TOP 50 WORLD STEEL PRODUCERS

second, with 2,962 more staff.

Since staff reduction historically is the thing to do in a recession, this category was added this year, limiting it to seven firms. The winner here was British Steel Corp., with a well publicized and controversial staff reduction of 22,600 persons. In second place was U.S. Steel, with a reduction of 13,692.

It is noteworthy that cutbacks in staff are occurring worldwide among many major steel producers and are not confined to a few unwieldy giants.

Despite cutbacks and reduced steel output at most steel producing operations worldwide, there were some major increases in steel production (see table). The list of the top ten steel production leaders, as measured in metric tons produced, includes five from the United States, with U.S. Steel Corp. showing the best improvement in production over all 50.

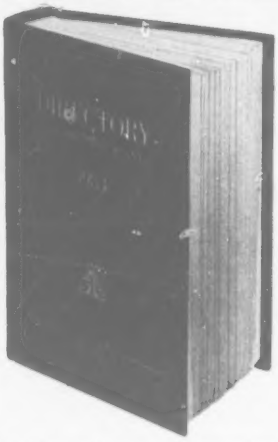
The top ten "Tons Produced Per Employee" leaders included no steel producers from the U.S. Although the firms on this list were much more efficient than the rest of the steel producers, it is interesting to observe that only three out of the ten improved their output per employee during 1983. Seven showed declines and were slightly less efficient.

Remember that the 1983 employment figures may not agree with those reported for 1982 in our previous survey, due to the clarification of who is an employee to be counted in the 1983 survey. However, the figures used in the above 1983/1982 comparison are current and comparable. The 1982 figures were reported in 1984 and are not carried over from our previous survey.

Examination of the firms, and their countries, supports various reports published in newspapers and magazines that the battle for efficiency in the steel industry is being waged in the Orient,

(Cont. on p. 107)

600-PAGE STEEL INDUSTRY FACT BOOK



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World's Top 50 Steel Producers in 1983

1983 Rank	(1982 Rank)	Company (Country)	Year	Crude Steel Production (metric tons)	Maximum Capability (metric tons)	Exports As % of Shipments	No. of Employees (Steelmaking)	Tons per Employee	Capital Expenditures 1984 Forecast 1983 Actual (Millions)
1	(1)	Nippon Steel	1983	26,852,802	54,514,000	36.0	64,100	418.9	Yen 160,000
		(Japan)	1982	28,319,963	54,514,000	34.0	65,291	433.7	Yen 240,000
2	(5)	U. S. Steel	1983	13,440,000	28,409,000	1.0	49,095	273.7	$1,827
		(U.S.A.)	1982	10,988,000	30,461,000	1.0	62,787	175.0	$1,470
3	(4)	British Steel	1983	12,700,000	21,000,000	26.8	81,100	156.6	£200 F1
		(England)	1982	11,400,000	21,000,000	25.2	103,700	109.9	£200 F1
4	(2)	Finsider	1983	12,165,000	21,400,000	33.0	94,100	129.3	Lire 1,500,000
		(Italy)	1982	13,336,628	21,900,000	31.0	99,700	133.8	Lire 1,400,000
5	(3)	NKK (Nippon	1983	11,411,000	21,030,000	33.0	25,337	450.4	Yen 118,000
		Kokan K.K.) (Japan)	1982	11,993,000	21,030,000	39.0	25,785	465.1	Yen 135,300
6	(7)	Kawasaki Steel	1983	10,358,000	20,780,000	37.3[1]	28,524	363.1	Yen 115,000 F1
		(Japan)	1982	10,863,000	20,780,000	41.5	29,496	368.3	Yen 130,000 F1
7	(6)	Sumitomo Metal	1983	10,339,000	21,680,000	38.1	28,784	359.2	Yen 80,000 F1
		Industries (Japan)	1982	10,883,000	21,680,000	45.3	29,570	368.0	Yen 133,000 F1
8	(9)	Bethlehem Steel	1983	9,699,725	19,636,019	2.0	35,052	276.7	$400
		(U.S.A.)	1982	9,544,544	20,035,181	1.0	43,545	219.2	$269.4
9	(13)	Siderbrás	1983	9,100,000					
		(Brazil)	1982	7,700,000					
10	(8)	Thyssen Stahl[2] (F2)	1983	8,811,000	20,383,000		49,638	177.5	
		(West Germany)	1982	10,248,000	20,550,000		51,412	199.3	DM 443
11	(12)	USINOR	1983	8,500,000	11,400,000	N.A.	39,963	212.7	N.A.[3]
		(France)	1982	8,700,000	11,400,000	40.0	41,867	207.8	FF 1,640
12	(11)	Pohang Iron & Steel	1983	8,438,100	9,100,000	30.0	12,241	689.3	US $382,340
		(South Korea)	1982	8,780,954	8,500,000	35.0	12,103	725.5	US $139,784
13	(18)	Jones & Laughlin/LTV	1983	6,985,000	11,800,000		29,000	240.9	N.A.
		(U.S.A.)	1982	5,896,000	11,800,000		31,000	190.2	$244.5
14	(10)	Sacilor	1983	6,976,000		48.7	67,500	103.3	N.A.[4]
		(France)	1982	8,907,000		51.0	60,353	147.6	FF 1.8
15	(15)	SAIL	1983	6,100,000					
		(India)	1982	6,700,000					Rs 5,252
16	(16)	Kobe Steel	1983	6,062,000	8,662,000	23.7	13,069	463.8	N.A.
		(Japan)	1982	6,428,000	8,662,000	23.2	13,479	476.9	Yen 62,000
17	(19)	Inland Steel	1983	5,720,677	9,300,000		20,500	279.1	
		(U.S.A.)	1982	4,691,028	9,300,000		21,000	223.4	
18	(22)	Republic Steel	1983	5,700,000					
		(U.S.A.)	1982	4,613,000			30,257	152.5	$117.5
19	(17)	Broken Hill Pty.	1983	5,601,338	7,620,000	28.2	30,836	181.6	
		(Australia)	1982	6,371,786	8,900,000	23.1	41,858	152.2	$113
20	(20)	Armco	1983	5,430,933	7,900,000	1.3	21,596	251.5	$127.5[5]
		(U.S.A.)	1982	4,811,695	9,400,000	1.5	18,634	258.2	$104.4
21	(14)	Iscor	1983	5,409,600	5,800,000	35.0	43,615	124.0	R 316.0[6]
		(South Africa)	1982	6,936,800	7,200,000	30.0	50,538	137.3	R 286.4
22	(21)	National Steel	1983	4,814,355					
		(U.S.A.)	1982	4,989,407			17,100	291.8	$109.3
23	(23)	Cockerill Sambre	1983	4,724,000		62.0[7]	19,899	237.4	
		(Belgium)	1982	4,559,000		63.0[8]	21,241	214.6	
24	(25)	Klöckner-Werke	1983	4,400,000					
		(West Germany)	1982	4,419,000			30,301	145.8	
25	(26)	Stelco	1983	4,334,622	7,245,590	23.0	19,519	222.0	N.A.
		(Canada)	1982	4,166,004	6,961,700	33.2	22,104	188.5	C $44,876
26	(27)	Hoogovens Grocp.	1983	4,277,000	7,200,000	67.4	17,850		DFL. 375.
		(Netherlands)	1982	4,122,000	7,200,000	64.7	18,840		DFL. 379
27	(28)	Hoesch Werke	1983	3,929,000		34.0	35,300	111.3	N.A.
		(West Germany)	1982	4,070,000		33.0	38,200	106.5	DM 225
28	(31)	Krupp Stahl	1983	3,904,000		27.0	29,075	134.3	N.A.
		(West Germany)	1982	3,991,000		29.0	35,840	111.4	DM 156
29	(29)	Voest-Alpine	1983	3,800,400		61.0	18,500	205.4	
		(Austria)	1982	4,170,800		62.0	19,400	215.0	
30	(24)	ENSIDESA	1983	3,799,872	6,000,000	38.0	22,356	170.0	Pts 16,700
		(Spain)	1982	4,449,596	6,000,000	33.0	22,556	199.5	Pts 5,952
31	(32)	Sidermex	1983	3,777,000	5,700,000	22.0	39,098	96.6	$ Mex. 79,145
		(Mexico)	1982	3,985,000	5,700,000	7.0	37,331	106.7	$ Mex. 54,660
32	(49)	China Steel	1983	3,411,010	3,250,000	33.0	7,554	451.6	US $251.2
		(Taiwan)	1982	2,316,707	3,250,000	46.0	6,180	374.9	US $104.9
33	(35)	Dofasco	1983	3,360,000	4,200,000		12,600	266.7	C $ N.A.
		(Canada)	1982	3,270,600			12,700	257.5	C $50
34	(34)	Arbed	1983	3,200,000	4,600,000	96.0	13,500	237.0	Flux 1,700
		(Luxembourg)	1982	3,500,000	4,600,000	96.0	15,100	231.8	Flux 2,100
35	(33)	Salzgitter	1983	3,122,200	7,100,000	39.1	14,132	220.9	
		(West Germany)	1982	3,515,700	7,100,000	41.2	14,856	236.7	
36	(30)	Mannesmann	1983	3,100,000					
		(West Germany)	1982	4,000,000					
37	(45)	COSIPA	1983	3,018,000	3,160,000	45.0	14,096	214.1	Cr $357,000
		(Brazil)	1982	1,854,269	3,160,000	29.0	14,375	129.0	Cr $99,000
38	(41)	CSN	1983	2,864,000	N.A.[9]	49.0	21,883	131.0	Cr $128
		(Brazil)	1982	2,301,000		25.0	22,805	100.9	Cr $113
39	(37)	N. V. Sidmar	1983	2,813,254	3,500,000	92.0	6,306	446.1	BF 1,392
		(Belgium)	1982	2,616,000	3,500,000	94.0	6,375	410.4	BF 1,521

World's Top 50 Steel Producers in 1983

40	(36)	USIMINAS	1983	2,690,243	3,500,000	22.0	12,994	207.0	Cr $15,000,000[10]
		(Brazil)	1982	2,880,557	3,500,000	11.0	13,321	216.2	Cr $3,667,500
41	(42)	Svenskt Stal (Sweden)	1983	2,600,000	3,100,000	38.0	9,900	262.6	Skr 1,000
			1982	2,200,000	3,100,000	38.0	9,900	222.2	Skr 900
42	(39)	Nisshin Steel (Japan)	1983	2,585,000	5,481,000	25.3	8,965	288.3	Yen 22,054
			1982	2,512,000	5,481,000	22.6	8,846	284.0	Yen 43,577
43	(40)	Arbed Saarstahl (West Germany)	1983	2,397,000	3,700,000	41.0	16,236	147.6	DM 50
			1982	2,388,000	3,700,000	40.0	18,015	132.6	DM 70
44	(43)	SIDOR (Venezuela)	1983	2,159,000	4,800,000	42.0	15,446	139.8	B 465
			1982	2,003,000	4,800,000	14.0	15,753	127.2	B 690
45	(46)	Algoma (Canada)	1983	2,092,000					N.A.
			1982	1,723,000					C $31.6
46	(49)	Wheeling-Pittsburgh Steel (U.S.A.)	1983	2,020,000	4,000,000	0.02	7,512	268.9	N.A.
			1982	1,650,000	4,000,000	0.02	8,036	205.3	$91.9
47	(44)	Tata Iron & Steel (India)	1983	1,935,000	2,120,000		64,757	29.9	Rs 781 F1
			1982	1,956,000	2,000,000		64,038	30.5	Rs 822 F1
48	(47)	Rautaruukki Oy (Finland)	1983	1,632,000		45.0	5,560	293.5	FIM 350
			1982	1,682,000		36.0	5,630	298.8	FIM 195
49	(50)	Altos Hornos de Vizcaya (Spain)	1983	1,377,000	1,350,000	30.0	9,880	139.4	Ptas. 9,728
			1982	1,350,000	1,350,000	20.0	10,243	131.8	Ptas. 9,728
50	(51)	Nucor (U.S.A.)	1983	1,156,654	1,700,000	0			$35
			1982	920,788	1,700,000	0			$20

Footnotes

F1 Fiscal Year — April 1-March 31
F2 Fiscal Year — October 1-September 30
F3 Fiscal Year — July 1-June 30

[1] Exports (Pct), first half of fiscal '83
[2] Includes Thyssen Bandstahl Berlin, Thyssen Grillo Funke and Nedstaal (Netherlands).
[3] Planned but not budgeted expenditures — FF 3,000 million
[4] Planned capital expenditures, 1982-86 — FF 8.5 million
[5] Planned capital expenditures, 1985 — $138.8 million
[6] Planned capital expenditures, 1985 — Rand 216 million
[7] Exports to EEC — 44%; others, 18%
[8] Exports to EEC — 45%; others, 18%
[9] Capacity, 1984 — 3,000,000 m tons and, 1985 — 4,0000,000 m tons.
[10] Capital expenditures planned, 1985 — MCr $125,882,879

Company Names Behind the Acryonyms

Rank	
9	Siderbrás—Siderurgia Brasileira S.A.
11	USINOR—Union Sidérurgique du Nord et de l'Est de la France
14	Sacilor—Aciéries et Laminoirs de Lorraine
15	SAIL—Steel Authority of India, Ltd.
21	Iscor—South African Iron & Steel Industrial Corp., Ltd.
25	Stelco—The Steel Company of Canada, Ltd.
30	ENSIDESA—Empresa Nacional Siderurgica, S.A.
33	DOFASCO—Dominion Foundries & Steel Ltd.
37	COSIPA—Companhia Siderúrgica Paulista
38	CSN—Companhia Siderúrgica Nacional
40	USIMINAS—Usinas Siderúrgicas de Minas Gerais S.A.
44	SIDOR—CVG Siderurgica del Orinoco

METEC 84

Düsseldorf, 22.–28. 6. 1984

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CH-8967 Widen
Switzerland

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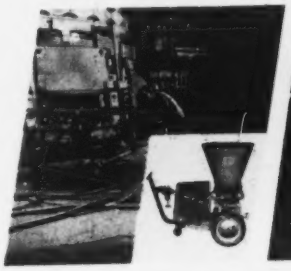
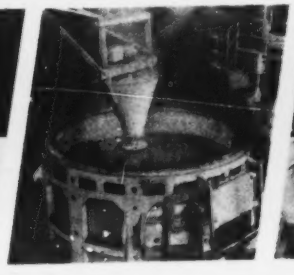
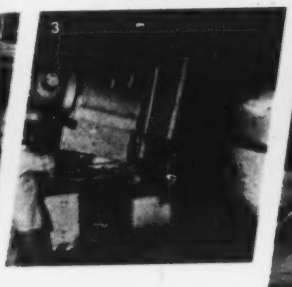
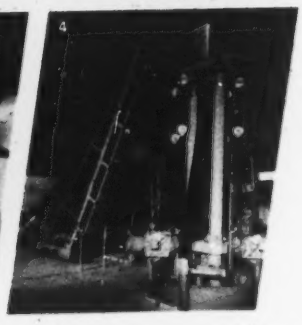
aliva

1. Aliva refractory spraying machine
2. Aliva centrifugal slinging machine
3. Aliva converter gunning unit
4. Aliva ladle ramming units

Aliva refractory processing plants have revolutionized maintenance operations on casting ladles and melting furnaces worldwide:

By rationalization, automation, enhanced durability, reduction of harmful emissions to a minimum, objective consulting service and a competent, international client service.
Aliva – economic without compromising.

For Information, Circle 129

TOP 50 WORLD STEEL PRODUCERS

with Japan, S. Korea and Taiwan being extremely competitive.

Most suppliers to the world steel producing market are interested in capital improvement plans, i.e. new plant and equipment, or modernization programs. Last year the survey indicated there was about $7 billion earmarked for expansion and improvements. This year the total is well over $8 billion, worldwide.

Since the 1983 survey was made earlier in the year than was the case in previous surveys, many budgets had not yet been finalized. A few firms indicated some very healthy on-going programs that will extend further into the future than the scope of the survey. (See footnotes to the table.)

U.S. Position Strengthens

On an overall basis, the survey reveals that the U.S. producers are indeed improving their competitive performance position. Five of the U.S. producers produced more steel in 1983 than in 1982 and five improved productivity on a tons per employee basis. Two of the seven leading companies worldwide that improved efficiency by reducing staff were U.S. companies.

U.S. Steel Corp.'s performance is particularly noteworthy in that it increased output while reducing the size of its plant and decreasing its number of employees. Despite much controversy in the news media, and much adverse criticism, the company is making progress and is investing heavily in new plant and equipment. In 1983, U.S. Steel spent $1.47 billion, and in 1984 it has earmarked $1.827 billion for modernization.

Overseas, the figures for British Steel show serious intent at improving its lot, along with some successes. Production is up and employment is down.

Looking at the overall picture, it appears that all are going to experience difficulty in managing their production efficiencies until the world steel supply is in tune with demand. It is apparent in the Japanese situation that capacity and efficiency do not guarantee sales when demand declines. □

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My name's McGruff,™ and it's my business to help prevent crime. I think it should be your business, too—to teach your employees how to protect themselves. Just send for my business kit—it'll help you develop a program that teaches your employees how to make their homes burglar-proof, make their neighborhoods safer, even how not to get mugged.

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TAKE A BITE OUT OF CRIME

Write to McGruff, Crime Prevention Coalition, 20 Banta Place, Hackensack, NJ 07601 for lots of information on Crime Prevention.

A message from the Crime Prevention Coalition, this publication and The Ad Council.
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For Information, Circle 130

PRICE & PRODUCTION DATA

(Effective April 9, 1984)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	256	257	241	198
Buffalo	11	11	11	32
Pittsburgh	293	309	295	213
Youngstown	123	114	124	93
Cleveland	144	150	128	138
Detroit	178	181	164	123
Chicago	567	579	555	476
Cincinnati	126	117	105	103
St. Louis	85	87	77	71
Southern	226	229	224	125
Western	90	84	82	79
U.S. Production	2,099	2,118	2,006	1,651

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural).....gross-ton 80.50-86.9*
Mesabi, regular-unscreened .....gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective April 9, 1984)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1984	To Date 1983
Net tons, in thousands	2,099	2,118	27,218	20,081
Capability Utilization Rate	80.8	82.0	75.2	49.5

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 2/13/84)	26.939	26.939	26.939	26.217
Pig Iron* * (Net ton=2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.* * * (Gross ton=2240 lbs.)	$ 90.17	$ 90.17	$ 91.83	$ 71.17
No. 2 bundles	$ 60.83	$ 61.83	$ 62.83	$ 49.17

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh .	$100.50	$100.50	$100.50	$ 75.50
No. 1 steel, Philadelphia ..	84.50	84.50	87.50	65.50
No. 1 steel, Chicago.....	85.50	85.50	87.50	72.50
No. 1 bundles, Detroit.....	89.50	88.50	95.50	75.50
Low Phos., Youngstown ..	96.50	96.50	99.50	69.50
No. 1 mach'y cast., Pgh...	79.50	79.50	79.50	76.50
No. 1 mach'y cast., Phila	100.50	100.50	100.50	98.50
No. 1 mach'y cast., Chi..	114.50	114.50	111.50	110.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
* *Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
* * *Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective April 9, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	81.00	76.00-81.00	9/27/83
Copper (C)	75.00-76.00	76.00	4/6/84
Lead	26.00-28.00	25.00-28.00	3/29/84
Magnesium Ingot	143.00	138.00	1/3/84
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	53.00	51.00-53.00	3/12/84

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig. delivered. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas . $2.00
Beryllium-aluminum 5% Be, per lb. contained Be $215.00
Beryllium-copper, per lb. cont. Be $130.00
Beryllium 97% powder 200 ..... $178.00
Bismuth, ton lots ..... $1.65-$1.80
Cadmium, ton lots $1.50
Calcium, ton lots, crown $3.50
Chromium, 99.8% $3.75
Cobalt, 99%, cathode $12.50
Gold per troy oz. $382.40
Indium, dollars per troy oz..... $2.50-$3.60
Iridium, dollars per troy oz..... $600
Magnesium sticks, 10,000 lbs. $1.97
Mercury, per 76-lb. f.o.b. N.Y. ...$318-$325
Molybdenum, lb. tech. moly oxides, 20 lb. MO can $6.85
Nickel oxide sinter at U.S. points of entry $3.12
Palladium, per troy oz. $140
Platinum, per troy oz. $475
Rhodium, per troy oz. $600.00
Silver ingots, per troy oz..... $9.125
Vanadium $6.00
Zirconium sponge.....$12.00-$17.00
(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

March 2—576.49
March 3—576.36
March 4—577.29
March 5—577.02
March 6—577.16

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	70	60¼
Yellow brass	64	57
Red brass	66	57¾
Comm. bronze	66¾	58
Mang. bronze	65¾	57¼
Free cutting rod ends	57	56

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	66
No. 2 copper wire	56
Light copper	47

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	62
No. 2 copper wire	52
Light copper	43
No. 1 composition	59
No. 1 comp. turnings	57
Hvy. yellow brass solids	40
Hvy. yellow brass turnings	35
Radiators	49

Aluminum

New mixed clips	51	—52
Old sheet	50	—51
Old cast	50	—51
Clean dry borings	50	—51

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	46	—48
Mixed L.C. clips	41	—43
Old sheets and cast	37	—38
Borings and turnings	29	—30
Duraluminum clippings	29	—30

Copper and Brass

No. 1 copper wire	53	—54
No. 2 copper wire	44	—45
Light copper	38	—39
Radiators	36	—37
No. 1 composition	45	—46
No. 1 composition turn'gs	42	—43
Cocks and faucets	31	—32
Clean heavy yellow brass	29	—30
Brass Pipe	30	—31
New soft brass clippings	47	—48

Lead

Heavy soft lead	9	—10
Whole batteries	3	— 4
Type metal	15	—16
Electrotype	13	—14

Nickel

Nickel solids	115	—125
Nickel rod ends	115	—125
Nickel sheets, clips	115	—125
Nickel turnings	60	— 65

Zinc

New zinc clippings	18	— 19
Old diecast zinc	14	— 15

EFFECTIVE APRIL 9, 1984

(Effective April 9, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$100.00 to $101.00
No. 2 hvy. melting	90.00 to 91.00
No. 1 dealer bundles	116.00 to 117.00
No. 1 factory bundles (auto)	118.00 to 119.00
No. 2 bundles	59.00 to 60.00
No. 1 busheling	112.00 to 113.00
Machine shop turn.	16.00 to 17.00
Shoveling turnings	54.00 to 55.00
Cast iron borings	53.00 to 54.00
Low phos. punchings plate	119.00 to 120.00
Heavy turnings	90.00 to 91.00
No. 1 RR hvy. melting	111.00 to 112.00
Rails 2 ft. and under	120.00 to 121.00
Scrap rails, random lgth.	104.00 to 105.00
RR specialties	121.00 to 122.00
No. 1 machinery cast	79.00 to 80.00
Cupola cast	72.00 to 73.00
Heavy breakable cast	30.00 to 31.00
Stainless	
18-8 bundles and solids	600.00 to 610.00
18-8 turnings	490.00 to 500.00

Chicago

No. 1 hvy. melting	$ 85.00 to $ 86.00
No. 2 hvy. melting	81.00 to 82.00
No. 1 dealer bundles	112.00 to 113.00
No. 1 factory bundles (auto)	114.00 to 115.00
No. 2 dealer bundles	64.00 to 65.00
No. 1 busheling	105.00 to 106.00
Shredder scrap	102.00 to 103.00
Machine shop turn.	46.00 to 47.00
Mixed bor. and turn.	47.00 to 48.00
Shoveling turnings	56.00 to 57.00
Cast iron borings	58.00 to 59.00
Low phos. forge crop	122.00 to 123.00
Low phos. punchings plate ¼ in. and heavier	132.00 to 133.00
Low phos. 2 ft. and under	127.00 to 128.00
No. 1 RR hvy. melting	107.00 to 108.00
Scrap rails, random lgth.	107.00 to 108.00
Reroller rails	112.00 to 113.00
Rails, 2 ft. and under	126.00 to 127.00
RR couplers and knuckles	110.00 to 111.00
RR car axles	134.00 to 135.00
No. 1 machinery cast	114.00 to 115.00
Cupola cast	108.00 to 109.00
Stove plate	106.00 to 107.00
Steel car wheels	120.00 to 121.00
Stainless	
18-8 bundles and solids	550.00 to 560.00
18-8 turnings	450.00 to 460.00
430 bundles and solids	135.00 to 140.00
430 turnings	100.00 to 105.00

Philadelphia

No. 1 hvy. melting	$ 83.00 to $ 86.00
No. 2 hvy. melting	73.00 to 76.00
No. 1 dealer bundles	101.00 to 104.00
No. 2 dealer bundles	57.00 to 60.00
No. 1 busheling	101.00 to 104.00
Shredder scrap	97.00 to 100.00
Machine shop turn.	29.00 to 32.00
Mixed bor. and turn.	29.00 to 32.00
Shoveling turnings	47.00 to 50.00
Low phos. 5 ft. and under	97.00 to 100.00
Low phos. 2 ft. punchings	117.00 to 120.00
Electric furnace bundles	112.00 to 115.00
RR specialties	105.00 to 108.00
Rails, 2 ft. and under	115.00 to 118.00
Cupola cast	70.00 to 73.00
Heavy breakable cast	57.00 to 60.00
No. 1 machinery cast	99.00 to 102.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 65.00 to $ 66.00
No. 2 hvy. melting	62.00 to 63.00
No. 1 dealer bundles	89.00 to 90.00
No. 2 bundles	44.00 to 45.00
No. 1 busheling	88.00 to 89.00
Drop forge flashings	62.00 to 63.00
Machine shop turn.	45.00 to 46.00
Mixed borings and turn.	28.00 to 29.00
Shoveling turnings	46.00 to 47.00
Cast iron borings	48.00 to 49.00
Heavy breakable cast	38.00 to 39.00
Mixed cupola cast	54.00 to 55.00
Automobile cast	77.00 to 78.00
Stainless	
18-8 bundles and solids	475.00 to 485.00
18-8 turnings	375.00 to 385.00
430 bundles and solids	120.00 to 130.00

Youngstown

No. 1 hvy. melting	$ 83.00 to $ 86.00
No. 2 hvy. melting	67.00 to 70.00
No. 1 dealer bundles	98.00 to 101.00
No. 2 dealer bundles	37.00 to 40.00
Machine shop turn.	14.00 to 17.00
Shoveling turnings	19.00 to 22.00
Low phos. plate	95.00 to 98.00
Electric furnace bundles	91.00 to 94.00
Galvanized bundles	84.00 to 87.00

Cleveland

No. 1 hvy. melting	$ 76.00 to $ 79.00
No. 2 hvy. melting	50.00 to 53.00
No. 1 dealer bundles	94.00 to 97.00
No. 1 factory bundles	97.00 to 100.00
No. 2 bundles	30.00 to 33.00
No. 1 busheling	93.00 to 96.00
Machine shop turn.	13.00 to 16.00
Mixed bor. and turn.	13.00 to 16.00
Shoveling turnings	15.00 to 18.00
Cast iron borings	18.00 to 21.00
Cut structural & plates, 2 ft. and under	116.00 to 119.00
Low phos. punchings plate	116.00 to 119.00
Drop forge flashings	62.00 to 65.00
Foundry steel, 2 ft. & under	70.00 to 75.00
No. 1 RR hvy melting	87.00 to 90.00
Rails, 2 ft. and under	122.00 to 125.00
Rails, 18 in. and under	123.00 to 126.00
Steel axle turnings	67.00 to 70.00
Railroad cast	100.00 to 103.00
No. 1 machinery cast	107.00 to 110.00
Cupola cast	63.00 to 66.00
Stove plate	48.00 to 51.00
Stainless	
18-8 bundles	375.00 to 385.00
18-8 turnings	325.00 to 335.00
430 bundles	80.00 to 85.00

Buffalo

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 74.00 to $ 75.00
No. 2 hvy. melting	61.00 to 62.00
No. 1 busheling	89.00 to 90.00
No. 1 dealer bundles	89.00 to 90.00
No. 2 bundles	40.00 to 41.00
Machine shop turn.	15.00 to 16.00
Mixed bor. and turn.	13.00 to 14.00
Shoveling turnings	20.00 to 21.00
Cast iron borings	25.00 to 26.00
Low phos. plate	102.00 to 103.00
Structural and plate, 2 ft. and under	102.00 to 103.00
Rails, 2 ft. and under	97.00 to 98.00
Scrap rails, random lgth.	77.00 to 78.00
No. 1 machinery cast	79.00 to 80.00
No. 1 cupola cast	59.00 to 60.00

St. Louis

No. 1 hvy. melting	$ 78.00 to $ 79.00
No. 2 hvy. melting	67.00 to 68.00
Foundry steel, 2 ft.	71.00 to 72.00
No. 1 dealer bundles	78.00 to 79.00
No. 2 bundles	65.00 to 66.00
Machine shop turn.	22.00 to 23.00
Shoveling turnings	29.00 to 30.00
Cast iron borings	38.00 to 39.00
No. 1 RR hvy. melting	84.00 to 85.00
Rails, random length	82.00 to 83.00
Rails, 18 in. and under	94.00 to 95.00
RR specialties	92.00 to 93.00
Cupola cast	74.00 to 75.00
Heavy breakable cast	53.00 to 54.00
Stove plate	88.00 to 89.00
Cast iron car wheels	57.00 to 58.00
Rerolling rails	90.00 to 91.00
Unstripped motor blocks	61.00 to 62.00

Birmingham

No. 1 heavy melting	$ 77.00 to $ 78.00
No. 2 heavy melting	71.00 to 72.00
No. 1 dealer bundles	82.00 to 83.00
No. 2 bundles	57.00 to 58.00
No. 1 busheling	82.00 to 83.00
Shredder scrap	104.00 to 105.00
Machine shop. turn.	41.00 to 42.00
Shoveling turnings	50.00 to 51.00
Cast iron borings	50.00 to 51.00
Electric furnace bundles	75.00 to 76.00
Elec. furnace, 3 ft. & under	80.00 to 81.00
Structural and plate, 2 ft.	108.00 to 109.00
Structural and plate, 4 ft.	105.00 to 106.00
No. 1 RR hvy. melting	105.00 to 106.00
Scrap rails, random lgth.	95.00 to 96.00
Rails, 2 ft. and under	110.00 to 111.00
Angles and splice bars	105.00 to 106.00
No. 1 cupola cast	94.00 to 95.00
Unstripped motor blocks	74.00 to 75.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 71.00 to $ 72.00
No. 2 hvy. melting	65.00 to 66.00
No. 1 dealer bundles	85.00 to 86.00
No. 2 bundles	42.00 to 43.00
Machine shop turn.	12.00 to 13.00
Shoveling turnings	14.00 to 15.00
Cast iron borings	29.00 to 30.00
Low phos. 18 in. and under	103.00 to 104.00
Rails, random length	84.00 to 85.00
Rails, 2 ft. and under	99.00 to 100.00
No. 1 cupola cast	74.00 to 75.00
Heavy breakable cast	38.00 to 39.00
Drop broken cast	90.00 to 91.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 50.00 to $ 52.00
No. 2 hvy. melting	41.00 to 43.00
No. 2 dealer bundles	23.00 to 27.00
Mixed bor. and turn.	11.00 to 13.00
Machine shop turn.	6.00 to 7.00
Shoveling turnings	14.00 to 15.00
Clean cast. chem. borings	35.00 to 36.00
No. 1 machinery cast	89.00 to 90.00
Mixed yard cast	50.00 to 51.00
Heavy breakable cast	10.00 to 12.00
Stainless	
18-8 prepared solids	510.00 to 530.00
18-8 turnings	410.00 to 430.00
430 prepared solids	90.00 to 110.00
410 solids	80.00 to 90.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 68.00 to $ 70.00
No. 2 hvy. melting	58.00 to 60.00
No. 1 dealer bundles	73.00 to 75.00
No. 2 bundles	39.00 to 41.00
No. 1 busheling	76.00 to 78.00
Shredder scrap	73.00 to 75.00
Machine shop turn.	12.00 to 14.00
Shoveling turnings	18.00 to 20.00
No. 1 machinery cast	90.00 to 95.00
Mixed cupola cast	48.00 to 50.00
Heavy breakable cast	18.00 to 20.00

San Francisco

No. 1 hvy. melting	$ 45.00 to $ 47.00
No. 2 hvy. melting	39.00 to 41.00
No. 1 dealer bundles	35.00 to 37.00
No. 2 dealer bundles	17.00 to 19.00
Machine shop turn.	6.00 to 8.00
Cast iron borings	6.00 to 8.00
No. 1 cupola cast	83.00 to 85.00

Los Angeles

No. 1 hvy. melting	$ 48.00 to $ 50.00
No. 2 hvy. melting	39.00 to 41.00
No. 1 dealer bundles	38.00 to 40.00
No. 2 dealer bundles	18.00 to 20.00
Machine shop turn.	10.00 to 12.00
Shoveling turnings	8.00 to 10.00
Cast iron borings	6.00 to 8.00
Elec. furnace, 1 ft. and under (foundry)	77.00 to 79.00
No. 1 cupola cast	77.00 to 79.00

Seattle

No. 1 hvy. melting	$ 71.00 to $ 73.00
No. 2 hvy. melting	60.00 to 62.00
No. 2 bundles	42.00 to 44.00
No. 1 cupola cast	98.00 to 100.00
Mixed yard cast	85.00 to 87.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 90.00
No. 2 heavy melting cut 2 ft. and under	87.00
No. 1 dealer bundles	87.00
No. 2 bundles	48.00
Mixed steel scrap	59.00
Bush. new fact. prep'd.	85.00
Bush. new fact. unprp'd.	75.00
Machine shop turn.	45.00
Short steel turn.	43.00
Mixed bor. and turn.	30.00
Cast scrap	73.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 81.00 to $ 82.00
No. 2 hvy. melting	67.00 to 68.00
No. 2 bundles	44.00 to 45.00
Machine shop turn.	18.00 to 19.00
Crushed turnings	42.00 to 43.00
Shredder scrap	83.00 to 84.00
Cut structural plate 2 ft. and under	95.00 to 97.00
Unstripped motor blocks	60.00 to 61.00
Cupola cast	80.00 to 81.00

CAPITAL SPENDING KEYS ORDERS GAIN

Economists are referring to American economic developments as "boomlike," and all major indicators seem to justify the assessment. February durable goods orders continued their upward movement, rising 0.9 pct in the second month compared with January, the U.S. Commerce Department reported.

Non-military capital goods orders led the slight surge of orders by U.S. factories—a 6.3 pct increase in February compared with January. This sector, which is a key indicator of businesses' future plans for plant and equipment, continues to hold strongly. In dollars, the figure was $26.9 billion compared with $25.3 billion in January.

New orders for durable goods totaled $101.8 billion up about 0.9 pct from the $100.9 billion registered in January. No large jumps were registered among the 23 categories shown, with the exception of overall machine tool orders—an almost 7 pct increase. Within that category, metalforming machine tools orders increased 24.7 pct to $69.7 million compared with $55.9 million the previous month. Overall, machine tools orders were $202.3 million in February, versus $189.1 million in January. However, orders for metalcutting machine tools dropped 0.5 pct to $132.6 million.

In the always fluctuating category of defense capital goods spending, the February statistics show a 13.6 pct increase to $7.5 billion compared with $6.6 billion in January.

Steel new orders, which were characterized as having "rebounded" in January, dropped 22 pct in February to $4.8 billion after registering $5.9 billion in the first month of 1984.

Taking away the categories which were unchanged month-to-month—farm machinery and equipment, general industrial machinery, and construction, mining, and materials handling equipment—increases and drops were about equally divided, 11 up and nine down.

Billions of Dollars, Seasonally Adjusted Monthly Total, unless otherwise noted Source: U.S. Dept. of Commerce		Latest Month or Qtr.	Previous Month or Qtr.	Same Period Year Ago
CAPITAL EXPENDITURES (Annual Rates)				
U.S. Industry, Total	4th Qtr.	$321.6	$304.7	$303.2
Manufacturing, Total	4th Qtr.	115.0	111.1	110.2
Manufacturing, Durable Goods	4th Qtr.	53.5	53.0	50.5
Mining Industry	4th Qtr.	13.1	11.9	13.4
KEY INDICATORS, Durable Goods Manufacturing				
New Orders	Feb.	101.8	100.9	78.4
Shipments	Feb.	96.0	95.1	77.4
Inventories	Feb.	172.9	170.7	173.5
Unfilled Orders	Feb.	335.0	329.2	289.7
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	Feb.	26.9	25.3	25.1
Capital Goods Producers, Defense Industries	Feb.	7.5	6.6	6.1
Primary Metals, Total	Feb.	11.2	12.6	9.8
Steel (SIC 331)	Feb.	4.8	5.9	4.1
Iron & Steel Castings (SIC 332)	Feb.	1.3	1.4	1.0
Nonferrous Metals	Feb.	5.1	5.3	4.9
Nonelectrical Mach.-Equip. Industries, Total	Feb.	17.1	17.3	12.5
Engines & Turbines	Feb.	1.2	0.9	1.0
Farm Machinery & Equipment (Shipments)	Feb.	1.0	1.0	0.8
Construction, Mining & Mat. Hdlg. Equip.	Feb.	2.6	2.6	1.8
General Industrial Machinery	Feb.	1.3	1.3	1.2
Fluid Power Equipment** (Index-1972=100)	Feb.	318.0	296.0	197.0
Metalworking Machinery	Feb.	0.8	0.9	0.6
Machine Tools, Total ($ Mill., Unadjusted)***	Feb.	202.3	189.1	98.0
Machine Tools, Metalcutting***	Feb.	132.6	133.2	77.9
Machine Tools, Metalforming***	Feb.	69.7	55.9	20.1
Electrical Mach. & Equip. Industries, Total	Feb.	15.9	15.3	12.2
Elec. Transmission Equip. & Ind. Apparatus	Feb.	2.0	1.9	1.1
Household Appliances	Feb.	1.3	1.5	1.1
Communication Equipment	Feb.	5.3	4.2	4.2
Transportation Equip. Industrial, Total	Feb.	27.1	25.7	18.1
Motor Vehicles & Parts (Shipments)	Feb.	16.7	16.8	11.3
Aircraft, Missiles & Parts	Feb.	7.6	6.8	5.6
Shipbuilding & Military Tanks	Feb.	1.9	0.8	0.4
Fabricated Metal Products, Total	Feb.	11.4	11.1	9.6
Instruments, Total	Feb.	4.2	4.6	4.0

*Est.—Commerce Dept.; **Source: National Fluid Power Assn.; ***Source: NMTBA